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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,113	06/20/2000	Roy C. Challberg	24-AT-6005	5948

7590

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EXAMINER

KEITH, JACK W

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 05/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/597,113

Applicant(s)

Challberg et al

Examiner

Jack Keith

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Feb 26, 2002

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1, 2, 4-6, 8-10, 12, and 13 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1, 2, 4-6, 8-10, 12, and 13 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☒ The proposed drawing correction filed on Feb 26, 2002 is: a) ☒ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other: _____

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4, 5, 10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakurai et al (JP 04-301596).

Sakurai discloses applicant's inventive concept. Referring to figures 1 and 2 of Sakurai a nuclear reactor core configuration is disclosed. A large control rod (1a) with each control rod comprising four control rod blades (4a) extending radially from a central portion (6a) and arranged at right angles to each other. The blades of the control rod define four fuel bundle (10) receiving channels. Note that four fuel bundles are located within each of the receiving channels.

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Additionally note that in applicant's core configuration (figure 4) the fuel assemblies are arranged in staggered rows. Referring to figure 2 of Sakurai the fuel assemblies are also arranged in staggering rows.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

4. Claims 1, 4-6, 8-10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiraiwa (JP 06-138275).

Hiraiwa discloses applicant's inventive concept. Referring to figures 4-6 of Hiraiwa a nuclear reactor core configuration is disclosed. A large control rod (48/49) with each control rod comprising four control rod blades extending radially from a central portion and arranged at right angles to each other. The blades of the control rod define four fuel bundle (40) receiving channels. Note that four fuel bundles are located within each of the receiving channels.

Additionally note in figures 5-6 that the fuel bundles are arranged so that the control rods are in a staggered row pattern where each side of the fuel bundle is adjacent to a control rod blade.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

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5. Claims 1, 4-6, 8-10, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kusuno (JP 04-296693).

Kusuno discloses applicant's inventive concept. Referring to figures 1, 13 and 22 of Kusuno a nuclear reactor core configuration is disclosed. A large control rod (7) with each control rod comprising four control rod blades extending radially from a central portion and arranged at right angles to each other. Referring to figure 13 the receiving channels is defined by four fuel bundles (40).

Referring to figure 1 and 22 it would appear that the fuel bundles are arranged so that the control rods are in a staggered row pattern where each side of the fuel bundle is adjacent to a control rod blade.

While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1, 4, 5, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al (JP 04-301596) in view of the admitted prior art (figures 1-3).

Sakurai discloses applicant's inventive concept. However, it is not apparent that Sakurai discloses a reactor core comprising a top guide and core plate, then, as admitted by applicant boiling water reactors are known to have a top guide with a core plate and fuel assemblies spaced between them. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the known boiling water reactor core designs into the reactor core configuration of Sakurai, because such results are in no more than the utilization of conventionally known boiling water reactor designs in the nuclear reactor art.

8. Claims 1, 4-6, 8-10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Hiraiwa (JP 06-138275) or Kusuno (JP 04-296693) in view of the admitted prior art (figures 1-3).

Either Hiraiwa or Kusuno disclose applicant's inventive concept. However, it is not apparent that either Hiraiwa or Kusuno disclose a reactor core comprising a top guide and core plate, then, as admitted by applicant boiling water reactors are known to have a top guide with a core plate and fuel assemblies spaced between them. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the known boiling water reactor core designs into the reactor core configuration of either Hiraiwa or Kusuno, because such results are in no more than the utilization of conventionally known boiling water reactor designs in the nuclear reactor art.

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Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00.

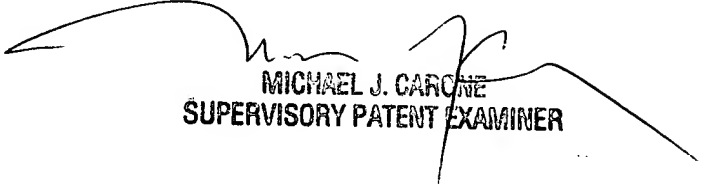
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

jwk

April 23, 2002



MICHAEL J. CARONE
SUPERVISORY PATENT EXAMINER